

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition			Completed By																		
							Lead hand / Supervisor Approval Verification																		
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Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																	
OTHER : _____																									

Work Order ID 134857

134857

Page 2

Wednesday, July 22, 2015 4:13:51 PM

Item ID: D4526-043 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Tube Assembly
 Start Date: 7/22/15 Start Qty: 2.00 *2* Cust Item ID:
 Required Date: 7/22/15 Req'd Qty: 2.00 *2* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140 *140* Large Fab	Memo 1- WELD CAP AS PER DWG	0.00 129399				2			15-08-07 JMC
Large Fab	2- GRIND ONLY THE ENDS FLUSH, TOP WILL BE MACHINE AS PER DWG								
150 *150* QC	QC10- Inspect visual per QSI004- ground welds	0.00				2			DAS 9 9-09
Quality Control	Memo	0.00							
160 *160* Lathe Conv	Manufacture as per dwg	0.00				2	0		J.C.L. 15/08/07
Conventional Lathe	Memo TURN ENDS AS PER DWG	0.00							

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Page 3

Quality Control

DQA: _____ Date: _____



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Work Order update only ☐

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Work Order ID 134857

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Page 4

Wednesday, July 22, 2015 4:13:51 PM

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 Item Name: Tube Assembly
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200	Identify as per dwg & Stock Location: ST249 ST258	0.00	DAS 26 9-89			(2)	JA		AUG 10 2015
200	Packaging Memo	0.00							
	Packaging								
210	QC21- Final Inspection - Work Order Release	0.00							
210	QC Memo	0.00							AUG 13 2015
	Quality Control								

MCS AUG 13 2015

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Picklist Print

Page 1

Wednesday, July 22, 2015 4:13:49 PM

Work Order ID: 134857

134857

Parent Item: D4526-043

D4526-043

Parent Item Name: Tube Assembly

Start Date: 7/22/15

Required Date: 7/22/15

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A 11.11.28 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6T1.000W.188		Purchased		No		100	f	285.5874	2.3458	4.938526			

M6061T6T1 000W 188

6061T6 RD TUBE 1.00 X .188W

Location	Loc Qty	Loc Code
GA002	285.5874	
m126686	240	
m128248	45.5874	

6.1042 J.C.L. 15/07/29

D4526-3

Manufactured No

140

Each

52.0000

2

4

D4526-3

Cap

Location	Loc Qty	Loc Code
WA001	14	
129961	14	
WA002	38	
131493	38	

15-08-06
JLM
4

DQA: _____ Date: _____

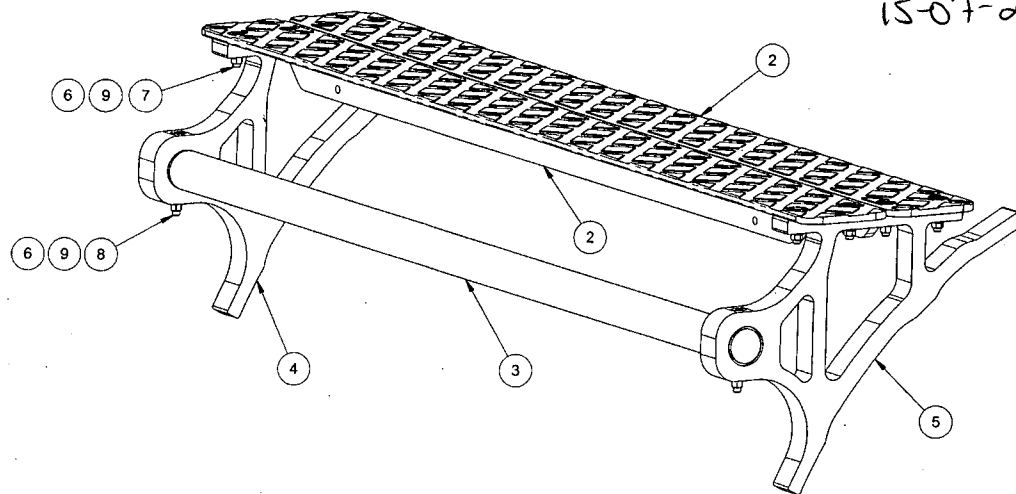


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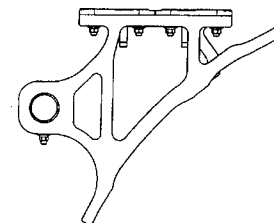
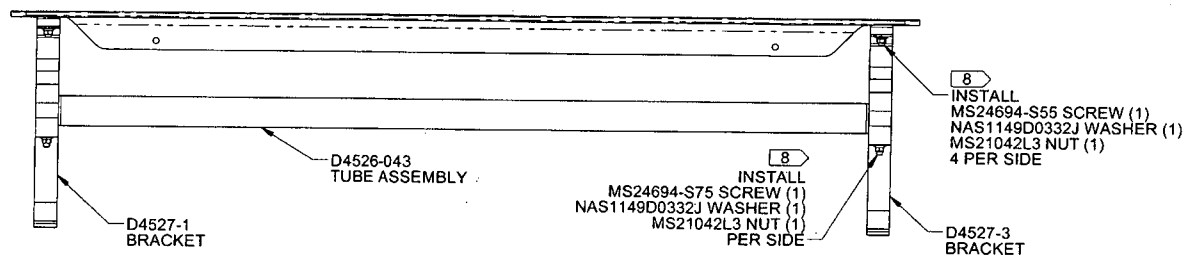
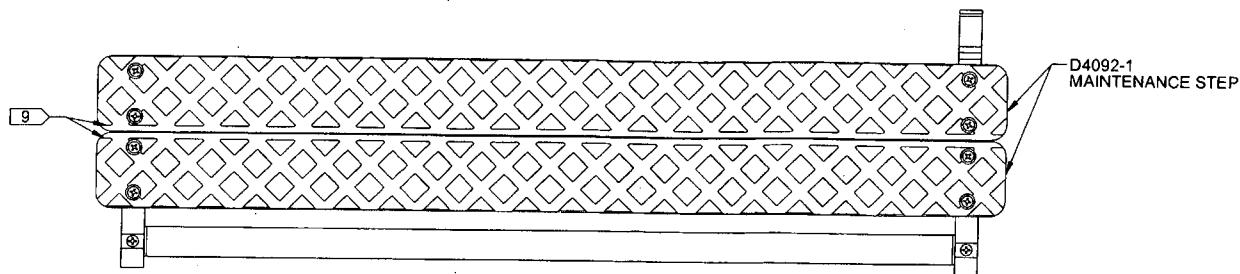
134857 MJS
15-07-23

D4526-042 MAINTENANCE STEP ASSEMBLY

ITEM	QTY -042	PART NUMBER	DESCRIPTION
1	X	D4526-042	MAINTENANCE STEP ASSEMBLY
2	2	D4092-1	MAINTENANCE STEP
3	1	D4526-043	TUBE ASSEMBLY
4	1	D4527-1	BRACKET
5	1	D4527-3	BRACKET
6	10	MS21042L3	NUT
7	8	MS24694-S55	SCREW
8	2	MS24694-S75	SCREW
9	10	NAS1149D0332J	WASHER

RELEASED
2011-11-28

A	NEW ISSUE	RF	11.11.22
REV.	DESCRIPTION		BY DATE
DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	RF	KENT, WA	
CHECKED	RF	DRAWING NO.	REV. A
MFG. APPR.	RF	D4526	SHEET 1 OF 5
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	MAINTENANCE STEP ASS'Y	NTS
DATE	11.11.22	COPYRIGHT © 2011 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. IT IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	



D4526-042 MAINTENANCE STEP ASSEMBLY

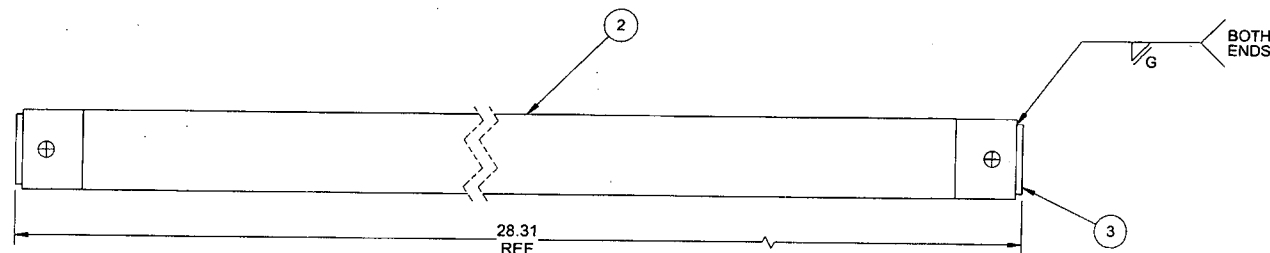
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER QSI 044 6.1
- 7) WEIGHT: 7.09 lbs
- 8) TORQUE SCREWS UP TO 15-25 in-lb (1.7-2.8 N-m)
- 9) GRIP CUTOUT TOWARD CENTER

RELEASED
2011-11-28
WDP

DESIGN	RF	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	RF		
CHECKED	RF	DRAWING NO. D4526	REV. A
MFG. APPR.	RF	SHEET 2 OF 5	
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	MAINTENANCE STEP ASS'Y	NTS
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ITEM	QTY -043	PART NUMBER	DESCRIPTION
1	X	D4526-043	TUBE ASSEMBLY
2	1	D4526-1	TUBING
3	2	D4526-3	CAP



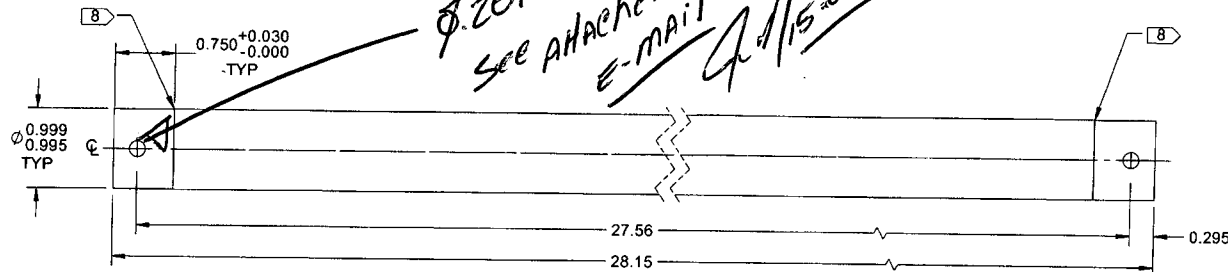
D4526-043 TUBE ASSEMBLY

RELEASED
2011-11-28
JW

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER QSI 044 6.1
- 7) WEIGHT: 1.32 lbs
- 8) WELD PER QSI 004

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CHECKED	<i>[Signature]</i>	DRAWING NO. D4526	REV. A
MFG. APPR.	<i>[Signature]</i>	SHEET 3 OF 5	
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	MAINTENANCE STEP ASS'Y	NTS
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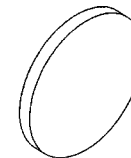
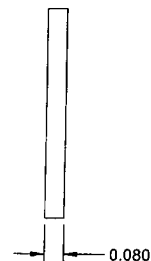
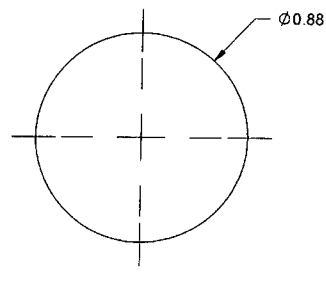
D4526-1 TUBING

NOTES:

- 1) MATERIAL: 6061-T6 OR 6061-T62 TUBING
PER WW-T-700/6 OR AMS 4080 OR AMS 4082
OR QQ-A-200/8 OR QQ-A-225/8
REF DART SPEC M6061T6T1.000W.188
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 1.31 lbs
- 8) MIN RADIUS OF TRANSITION OF R0.06

DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	RF	KENT, WA	
CHECKED	RF	DRAWING NO.	REV. A
MFG. APPR.	RF	D4526	SHEET 4 OF 5
APPROVED	RF	TITLE	SCALE
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RELEASED
2011-11-28
MM



D4526-3 CAP

NOTES:

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160) OR ASTM B211 OR ASTM B221
REF DART SPEC M6061T6R
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.005 lbs

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MP

DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	RF	KENT, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	D4526	SHEET 5 OF 5
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	MAINTENANCE STEP ASS'Y	
DATE	11.11.22	NTS	
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Jean-Luc Menard

From: Jean-Luc Menard
Sent: March-12-15 9:48 AM
To: Eric Downing
Subject: FW: holes diameter missing on the D4526 sheet 4

Did we create one?

From: Jean-Luc Menard
Sent: July-14-14 1:13 PM
To: 'Patrick Smith'; Eric Downing
Cc: Roberto Fuentes
Subject: FW: holes diameter missing on the D4526 sheet 4

Hi Guys,
Can we open a Par FOR THIS PLS.
THX
JL

From: Roberto Fuentes
Sent: July-14-14 1:12 PM
To: Jean-Luc Menard; Harvey Siemens
Subject: holes diameter missing on the D4526 sheet 4

Hi JL,

In respond to your Skype message regarding holes diameter missing on the D4526 sheet 4. The holes are 0.201 in diameter according to the SW file, which is acceptable for a 10-32 screw.

Roberto